## REMARKS/ARGUMENTS

Prior to the present amendment, Claims 58-77 were pending in this application. With this amendment, Claims 58-62, 66-67 and 71-73 have been canceled without prejudice and Claims 63-65, 68-69, and 74 have been amended, and new Claims 78-84 have been added.. Claims 63-65, 68-70 and 74-84 are pending after entry of the instant amendment. The specification has been amended to correct formal errors as discussed below. The amendments to the specification and claims are fully supported by the specification and claims as originally filed and do not constitute new matter. New Claims 78-84 are fully supported by the specification and the claims as originally filed. Support for new Claims 78-84 can be found in the specification at least, for example, on page 108, lines 8-16 and on page 129, line 35 to page 130, line 5. Applicants expressly reserve the right to pursue any canceled matter in subsequent continuation, divisional or continuation-in-part applications.

### I. Specification

The title was objected to as being non-descriptive. The foregoing amendment, which replaces the original title with a new title, that is clearly indicative of the invention to which the claims are directed, is believed to overcome this objection.

As requested by the PTO, Applicants have amended the specification to correct the ATCC address on page 372, line 34. The foregoing amendment is believed to overcome this objection.

Further, the paragraph beginning at page 374, line 32, has been amended to comply with the provisions of the Budapest Treaty. In addition, the specification has been amended to remove embedded hyperlink and/or other form of browser-executable code.

### II. Information Disclosure Statement

The Examiner notes that references cited as "Blast Results", filed on May 25, 2002, and June 13, 2003, "do not give sufficient identifying information." In response, Applicants file herewith, an Information Disclosure Statement listing each reference of the "Blast Search" separately and including authors/inventors, relevant accession numbers and publication dates.

Applicants respectfully request that the listed information be considered by the Examiner and be made of record in the above-identified application.

## III. Priority

The PTO asserts that Applicants are entitled to the priority of U.S. Provisional Application No. 60/131445, filed April 28, 1999, based on the results of Example 114 that discloses that PRO615 nucleic acid is amplified at least 2-fold in human tumor and cell lines. Applicants respectfully submit, that as stated in the preliminary amendment of August 22, 2002, Applicants claim priority to U.S. Provisional Application No. 60/083,392, filed on April 29, 1998, and to International Application No. PCT/US99/05028.

Applicants respectfully submit that the nucleic acid of the invention has two different, yet important functions; encoding a protein of the synaptogyrin family and amplification in human tumor and cell lines.

U.S. Provisional Application No. 60/083,392, filed on April 29, 1998, and the priority of which is claimed herein, discloses the first function - that the claimed nucleic acids encode a protein of the synaptogyrin family which is a synaptic vesicle protein that is ubiquitously expressed in the nervous system. PRO615, like synaptogyrin has four membrane-spanning domains and is useful in membrane traffic to and from the plasma membrane. Stenius et al., J. Cell. Biol. 131:1801-09 (1995). A copy of the provisional application is attached herewith.

Applicants respectfully submit that the nucleic acid's second function is elucidated in the gene amplification assay of Example 114 of International Application No. PCT/US99/05028, filed on March 8, 1999, the priority of which is claimed herein. The result that PRO615 nucleic acid is amplified at least 2-fold in human tumor and cell lines was first disclosed in pages 275-76 of the application. Pages 1 (cover page), 275 and 276 of the PCT publication, WO 99/46281, corresponding to PCT application, PCT/US99/05028, are enclosed herewith.

## IV. Claim Rejections Under 35 U.S.C. §112, Second Paragraph

Claims 58-77 are rejected under 35 U.S.C. §112, second paragraph, for allegedly "being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention."

**A.** The PTO notes that "[c]laims that recite 'the extracellular domain' of the protein are indefinite as no extracellular domain has been described. Therefore, the metes and bounds of the claims cannot be determined. For example see claims 58-63, parts (c) and (d)." Further, the PTO alleges that "if the protein had an extracellular domain, the recitation of 'the extracellular domain'. . . 'lacking its associated signal sequence' (claim 58, part (d), for example)" is indefinite[.]"

Without acquiescing to any of the rejections, Applicants submit that the cancellation of Claims 58-62, 66, 67 and 71-73 renders the rejection of these claims moot. Further, the terms "the extracellular domain" or "the extracellular domain . . . lacking its associated signal sequence" is not recited in any of remaining Claims 63-65, 68-70 or 74-77. Accordingly, Applicants request that the rejection of Claims 63-65, 68-70 and 74-77 under 35 U.S.C. §112, second paragraph, be withdrawn.

**B.** Claims 71 and 72 are further rejected under 35 U.S.C. §112, second paragraph, allegedly because the terms "hybridizes to" and "stringent conditions," respectively, are not defined so as to allow the metes and bounds of the claims to be determined.

Without acquiescing to the rejection, Applicants submit that the cancellation of Claims 71 and 72 renders the rejection of these claims moot. Accordingly, Applicants request that the rejection of Claims 71 and 72 under 35 U.S.C. §112, second paragraph, be withdrawn.

## V. Claim Rejections Under 35 U.S.C. §112, First Paragraph (Enablement)

**A.** Claims 58-62 and 71-77 stand rejected under 35 U.S.C. §112, first paragraph, because "the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims." Specifically, the PTO alleges that "the specification, while being enabling for nucleic acid of SEQ ID NO:161, . . . does not reasonably provide enablement for nucleic acids 80%, 85%, 90%, 95% or 99% identical to such." *See* page 4 of the instant Office Action. The PTO also contends that the specification is "not enabling of the breadth of claims to nucleic acid molecules that hybridize to the disclosed sequences." *See* page 7 of the instant Office Action.

Without acquiescing to the rejection, Applicants submit that the cancellation of Claims 58-62 and 71-73 renders the rejection of these claims moot. Further, amended

Claims 74-77 recite, *inter alia*, an isolated nucleic acid comprising: a nucleic acid sequence encoding the polypeptide of SEQ ID NO:162 or the polypeptide of SEQ ID NO:162 lacking its associated signal peptide; the nucleic acid sequence of SEQ ID NO:161; the full-length coding sequence of the nucleic acid sequence of SEQ ID NO:161; or the full-length coding sequence of the cDNA deposited under ATCC accession number 209811. None of the pending claims are drawn to nucleic acids that are 80%, 85%, 90%, 95% or 99% identical to that of SEQ ID NO:161.

Accordingly, Applicants submit that pending Claims 74-77 are enabled, as required by 35 U.S.C. §112, first paragraph. The PTO is respectfully requested to reconsider and withdraw the rejection of Claims 74-77 under 35 U.S.C. §112, first paragraph.

**B.** The PTO further alleges that Claims 58-63 and 70-77 stand rejected under 35 U.S.C. §112, first paragraph, because Applicants were not fully compliant with the Budapest Treaty. Specifically, the PTO states that Applicants must state that a viable culture of the deposit would be maintained for 30 years from the date of deposit and for at least five (5) years after the most recent request for the furnishing of a sample of the deposit received by the depository.

Without acquiescing to the rejection, Applicants submit that the cancellation of Claims 58-62 and 71-73 renders the rejection of these claims moot. Further, the sentence beginning on page 378, line 35 has been amended to state, "This assures maintenance of a viable culture of the deposit for 30 years from the date of deposit and for at least five (5) years after the most recent request for the furnishing of a sample of the deposit received by the depository."

Accordingly, Applicants submit that all the requirements of 37 C.F.R. §1.806 are met and that Applicants are fully compliant with the requirements of the Budapest Treaty. Applicants therefore request the PTO to reconsider and withdraw the rejection of the pending claims under 35 U.S.C. §112, first paragraph.

## VI. Claim Rejections Under 35 U.S.C. §112, First Paragraph (Written Description)

Claims 58-62 and 71-77 stand rejected under 35 U.S.C. §112, first paragraph, for allegedly containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed invention at the time the application was filed. In particular, the PTO notes that "[t]he

claims are drawn to polynucleotides having at least 80%, 85%, 90%, 95% or 99% sequence identity with a particular disclosed sequence, or that merely hybridize to a disclosed sequence. The claims do not require that the claimed polynucleotide possess any particular biological activity . . . ."

Without acquiescing to the rejection, Applicants submit that the cancellation of Claims 58-62 and 71-73 renders the rejection of these claims moot. Further, amended Claims 74-77 recite, *inter alia*, the nucleic acid of Claim 63. None of the pending claims are drawn to nucleic acids that are 80%, 85%, 90%, 95% or 99% identical to that of SEQ ID NO:161.

Accordingly, Applicants submit that the subject matter of pending Claims 74-77 is described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed invention at the time the application was filed. The PTO is therefore respectfully requested to reconsider and withdraw the rejection of Claims 74-77 under 35 U.S.C. §112, first paragraph.

## VII. Claim Rejections Under 35 U.S.C. § 102(b)

**A.** Claims 58-67 and 71-73 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kedra *et al.* ("Kedra"), Accession No. AJ002308, published on March 3, 1998. As discussed in Section III above, Applicants claim priority to U.S. Provisional Application No. 60/083,392, filed on April 29, 1998. Accordingly, Applicants submit that Kedra, which was published less than a year before Applicants' priority date, cannot be cited as a reference under 35 U.S.C. §102(b). If the PTO contends that Kedra is prior art, then it must be so under 35 U.S.C. §102(a).

Without acquiescing to the rejection, Applicants respectfully submit that the cancellation of Claims 58-62, 66-67 and 71-73 renders the rejection of these claims moot. In response to the rejection of Claims 63-65, 68-70 and 74-77, Applicants respectfully submit Declarations under 37 C.F.R. §1.131 by Dr. Goddard, Dr. Godowski, Dr. Gurney, Ms. Roy and Dr. Wood, that establish that Applicants had conceived and reduced to practice the claimed invention before the prior art date of March 3, 1998. The consideration of the Declarations is respectfully requested.

**Applicants need to disclose only what is disclosed in the cited reference to support their priority claim**

Applicants respectfully submit that in order to overcome the 35 U.S.C. §102(a) rejection over Kedra and support the priority claim, the Declarations by Dr. Goddard, Dr. Godowski, Dr. Gurney, Ms. Roy and Dr. Wood ("Declarations") simply need to provide a disclosure commensurate in scope with the disclosure in the prior art document by Kedra.

In order to remove a reference as a prior art, "[i]t is sufficient if [the affidavit under Patent Office Rule 131] shows that as much of the claimed invention as is taught in the reference has been reduced to practice by the [patentee] prior to the date of the reference." *In re* Stempel, 241 F.2d 755, 757 (1957). In *In re* Stempel, the patent applicant (Stempel) had claims directed to both (i) a particular genus of chemical compounds (the "generic" claim) and (ii) a single species of chemical compound that was encompassed within that genus (the "species" claim). In support of a rejection under 35 U.S.C. §102, the examiner cited against the application a prior art reference that disclosed the exact chemical compound recited in the "species" claim. In response to the rejection, the patent applicant filed a declaration under 37 C.F.R. §1.131 demonstrating that he had made that specific chemical compound prior to the effective date of the cited prior art reference. The Court found the applicant's 37 C.F.R. § 1.131 declaration effective for swearing behind the cited reference for purposes of both the "species" claim and the "genus" claim. Specifically, the Court stated in support of its decision that "all the applicant can be required to show is priority with respect to so much of the claimed invention as the reference happens to show. When he has done that he has disposed of the reference." *Id.* at 759.

Furthermore, the Examiner is respectfully directed to *In re* Moore, 170 USPQ 260 (CCPA 1971), where the holding in *In re* Stempel was affirmed. In *In re* Moore, the patent applicant claimed a particular chemical compound in his patent application and the examiner cited against the applicant a prior art reference under 35 U.S.C. §102 rejection which disclosed the compound but did not disclose any specific utility for the compound. The patent applicant filed a declaration under 37 C.F.R. §1.131 demonstrating that he had made the claimed compound before the effective date of the cited prior art reference, even though he had not yet established a utility for that compound. On appeal, the Court indicated that the 131 declaration

filed by the patent applicant was sufficient to remove the cited reference. The Court relied on the established "Stempel Doctrine" to support its decision, stating:

> An applicant need **not** be required to show [in a declaration under 37 C.F.R. § 1.131] any more acts with regard to the subject matter claimed that can be carried out by one of ordinary skill in the pertinent art following the description contained in the reference ... the determination of a practical utility when one is not obvious need **not** have been accomplished prior to the date of a reference unless the reference also teaches how to use the compound it describes.

*In re* Moore, 170 USPQ at 267 (emphasis added).

Thus, *In re* Moore confirmed the holding in *In re* Stempel which states that in order to effectively remove a cited reference with a declaration under 37 C.F.R. §1.131, an applicant need only show that portion of his or her claimed invention that appears in the cited reference.

Accordingly, Applicants respectfully submit that the Declarations simply need to show possession of the polypeptide sequence and its encoding polynucleotide sequence and the homology of the polypeptide to the synaptogyrin family as disclosed in Kedra in order to overcome the 35 U.S.C. §102 rejection over Kedra.

The PTO alleges that the Kedra publication of March 3, 1998, discloses a nucleic acid that encodes an amino acid sequence that is identical to that encoded by SEQ ID NO:161 and discloses that the sequence is homologous to synaptogyrins.

As shown in the Declarations, Applicants respectfully submit that Dr. Goddard, Dr. Godowski, Dr. Gurney, Ms. Roy and Dr. Wood conceived and reduced to practice the PRO615 polypeptide (SEQ ID NO: 162) and its encoding nucleic acid sequence (SEQ ID NO: 161) claimed in the present application, in the United States prior to March 3, 1998. The polypeptide encoded by the claimed nucleic acid sequence was also shown to have homology to synaptogyrins before the Kedra publication of March 3, 1998.

As indicated in the Declarations and the brief description of Figure 60 of the present specification, the PRO615 polypeptide is encoded by DNA48304-1323.

Furthermore, as stated in the Declarations, the GSeqEdit database stores cloning, sequencing and functional information for each PRO polypeptide and its encoding nucleic acid sequences according to its DNA number. Copies of the pages from the GSeqEdit database report (with the dates redacted) showing the cloning and sequencing information for the PRO615

polypeptide sequence and its encoding nucleic acid sequence are attached to the Declarations as Exhibit A.

The GSeqEdit report shows the full length nucleic acid sequence for DNA48304-1323 (identified as "DNA48304") and the full length polypeptide sequence encoded by DNA48304. As evidenced from the report and stated in the Declarations, both the nucleic acid and amino acid sequences shown in Exhibit A were obtained prior to March 3, 1998.

In addition, as stated in the Declarations, the DNA48304 sequence shown in the GSeqEdit report is identical to the nucleic acid of SEQ ID NO:161 disclosed in the present application. Further, the amino acid sequence shown in the GSeqEdit report is identical to SEQ ID NO:162 disclosed in the present application and to Kedra nucleic acid. In addition, the report indicates that the polypeptide is homologous to human synaptogyrin.

Accordingly, the Declarations along with attached Exhibit A clearly show that Applicants were in possession of DNA48304-1323, the PRO615 polypeptide encoded by DNA48304-1323, and the functional information that PRO615 was homologous to human synaptogyrin, prior to March 3, 1998. Therefore, the Declarations clearly establish that the PRO615 polypeptide, its homology to human synaptogyrin and its encoding nucleic acid were conceived and reduced to practice prior to March 3, 1998.

Consequently, based on the holdings of *In re* Stempel and *In re* Moore, Applicants respectfully submit that Kedra is not prior art under 102(a) since its publication date is after the date the instant invention was conceived and reduced to practice in the United States. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection of Claims 63-65, 68-70 and 74-77 under 35 U.S.C. §102(b).

**B.** Claims 58-62 and 71-77 stand rejected under 35 U.S.C. §102(b) as being anticipated by Hawkins *et al.* ("Hawkins"), U.S. Patent No. 5,854,413. The standard for anticipation under 35 U.S.C. §102 is strict identity. Anticipation under §102 can only be established by a single prior art reference that teaches each and every element of the claimed invention. *Structural Rubber Products Co. v. Park Rubber Co.* 223 USPQ 1264 (1984).

Without acquiescing to the rejection, Applicants respectfully submit that the cancellation of Claims 58-62 and 71-73 renders the rejection of these claims moot. Applicants further submit

that amended Claims 74-77 depend from Claim 63 and recite, *inter alia*, an isolated nucleic acid comprising: a nucleic acid sequence encoding the polypeptide of SEQ ID NO:162 or the polypeptide of SEQ ID NO:162 lacking its associated signal peptide; the nucleic acid sequence of SEQ ID NO:161; the full-length coding sequence of the nucleic acid sequence of SEQ ID NO:161; or the full-length coding sequence of the cDNA deposited under ATCC accession number 209811.

Applicants respectfully submit that Hawkins does not teach or suggest a nucleic acid that encodes the polypeptide of SEQ ID NO:162, with, or without, its associated signal peptide, or the nucleic acid sequence of SEQ ID NO:161 or its coding sequence or the coding sequence of the cDNA deposited under ATCC accession number 209811. As admitted by the PTO, it, instead, teaches a polynucleotide that encodes a polypeptide that differs from that of SEQ ID NO:162. Applicants thus submit that because Hawkins does not teach or suggest the claimed nucleic acid, it *cannot* anticipate Claims 74-77.

Accordingly, Applicants request that the rejection of Claims 74-77 under 35 U.S.C. § 102(b) as being anticipated by Hawkins be withdrawn.

## VIII. Claim Rejections Under 35 U.S.C. §103(a)

Claims 74-77 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kedra in view of Hawkins. For the reasons outlined below, Applicants respectfully disagree with this rejection.

To reject claims in an application under 35 U.S.C. §103, the PTO bears the initial burden of establishing a *prima facie* case of obviousness. *In re Bell*, 26 USPQ2d 1529, 1530 (Fed. Cir. 1993); MPEP § 2142. In order to establish *prima facie* obviousness, three basic criteria must be met.

First, the prior art must provide one of ordinary skill in the art with a suggestion or motivation to modify or combine the teachings of the references relied upon by the PTO to arrive at the claimed invention. Second, the prior art must provide one of ordinary skill in the art with a reasonable expectation of success that the modification or combination suggested by the PTO would succeed. *In re Dow*, 5 USPQ2d 1529, 1531-32 (Fed. Cir. 1988). Third, the prior art, either alone or in combination, must teach or suggest ***each and every limitation of the rejected***

*claims*. *In re Gartside*, 53 USPQ2d 1769 (Fed. Cir. 2000) (Emphasis added). If any one of these criteria are not met, *prima facie* obviousness is not established, and Applicants are not required to show new or unanticipated results. *In re Grabiak*, 226 USPQ 870 (Fed. Cir. 1985).

Applicants submit that the references cited by the PTO are not sufficient to establish a *prima facie* case of obviousness against Claims 74-77. Amended Claims 74-77 recite, *inter alia*, a vector comprising nucleic acid that encodes the polypeptide of SEQ ID NO:162, with, or without, its associated signal peptide, or the nucleic acid sequence of SEQ ID NO:161 or the full-length coding sequence of the nucleic acid sequence of SEQ ID NO:161, or the full-length coding sequence of the cDNA deposited under ATCC accession number 209811.

As discussed in Section VIIA, above, Kedra is not prior art, because as evidenced by the Declarations of Dr. Goddard, Dr. Godowski, Dr. Gurney, Ms. Roy and Dr. Wood, submitted herewith, the inventors had conceived and reduced the instant invention to practice in the United States before the publication date of Kedra.

Further, as discussed in Section VIIB, above, Hawkins does not teach or suggest a nucleic acid that encodes the polypeptide of SEQ ID NO:162, with, or without, its associated signal peptide, or the nucleic acid sequence of SEQ ID NO:161 or its coding sequence or the coding sequence of the cDNA deposited under ATCC accession number 209811. Accordingly, Hawkins does not teach or suggest a vector comprising a nucleic acid that encodes the polypeptide of SEQ ID NO:162, with, or without, its associated signal peptide, or the nucleic acid sequence of SEQ ID NO:161 or its coding sequence or the coding sequence of the cDNA deposited under ATCC accession number 209811.

Applicants therefore submit that neither Hawkins does not teach or suggest each and every element of Claims 74-77. As Kedra is not prior art, the PTO's combination of references fails to teach or suggest each and every element of Claims 74-77. As discussed above, in order to establish *prima facie* obviousness, the prior art cited by the PTO must teach or suggest *each and every limitation of the rejected claims*. By failing to cite such a teaching or suggestion in the art, the PTO has failed to establish *prima facie* obviousness against Claims 74-77. Accordingly, Applicants request that the rejection of Claims 74-77 under 35 U.S.C. § 103(a) as being as being unpatentable over Kedra in view of Hawkins be withdrawn.

## CONCLUSION

In conclusion, the present application is believed to be in *prima facie* condition for allowance, and an early action to that effect is respectfully solicited. Should there be any further issues outstanding, the Examiner is invited to contact the undersigned attorney at the telephone number shown below.

Please charge any additional fees, including fees for additional extension of time, or credit overpayment to Deposit Account No. **08-1641** (referencing Attorney's Docket No. **39780-2630 P1C74**).

Respectfully submitted,

Date: September 20, 2004

By: _____
Anna L. Barry (Reg. No. 51,436)

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